



EAST LYME



Photo Credit: Town of East Lyme, seeeastlyme.com, Mara Lavitt/East Lyme Agriculture, Tripadvisor

Community Resilience Building Summary of Findings

April 2024



Town of East Lyme, Connecticut

Community Resilience Building

Summary of Findings

Overview

The need for municipalities to increase resilience to extreme weather events and a changing climate is strikingly evident in light of recent events across the state of Connecticut. Super Storm Sandy, severe winter storms (2013 & 2015), COVID-19 pandemic, and Tropical Storm Isaias have reinforced this urgency and compelled leading communities like the Town of East Lyme to proactively collaborate on planning and mitigating risks. Ultimately, this type of leadership is to be commended because it should help reinforce the strengths and reduce the vulnerability of infrastructure, ecosystems, and people at risk, as well as serve as a model for other communities to emulate across Connecticut, New England, and the nation.

The Town of East Lyme achieved certification with Sustainable CT in 2019 and renewed in 2023. As part of this ongoing process to achieve Climate Leadership certification, The Nature Conservancy (TNC) and Sustainable CT provided the Town with a community-driven process to assess current hazard and climate change impacts and to generate potential and prioritized solutions to improve resilience and sustainability for this community. In February 2024, East Lyme's Core Team helped organize a Community Resilience Building process and workshop facilitated by TNC in partnership with Sustainable CT. The core directive of this effort was the engagement with and between community members to define strengths and vulnerabilities and the development of agreeable priority resilience actions for the Town of East Lyme.

The East Lyme Community Resilience Building Workshop's central objectives were to:

- Define top local, natural, and climate-related hazards of concern.
- Identify existing and future strengths and vulnerabilities.
- Identify and prioritize actions for the Town.
- Identify opportunities to collaboratively advance actions to increase resilience alongside residents and organizations from across the Town, and beyond.

The Town of East Lyme employed an “anywhere at any scale”, community-driven process called Community Resilience Building (CRB) (www.CommunityResilienceBuilding.org). The CRB’s tools, reports, other relevant planning documents, and local maps were integrated into the workshop process to provide both decision-support around shared issues and existing priorities. The East Lyme Plan of Conservation and Development (2020) and the Southeastern Connecticut Council of Government Hazard Mitigation Plan Update – East Lyme Annex (2023) were particularly instructive as references. Using the CRB process, rich with information, experience, and dialogue, the participants produced the findings presented in this summary report. This material includes an overview of the top hazards, current concerns and challenges, existing strengths, and proposed actions to improve East Lyme’s resilience to hazards and climate change today, and in the future.

The summary of findings transcribed in this report is presented for comments, corrections and updates from workshop attendees and other stakeholders alike. The leadership displayed by the Town of East Lyme on community resilience building will benefit from the continuous participation of all those concerned.

Summary of Findings

Top Hazards and Vulnerable Areas for the Community

Prior to the CRB Workshop, the East Lyme CRB Core Team identified several top hazards present in the Town. The hazards of greatest concern included winter storms; hurricanes and large tropical storms; and extreme precipitation events. Additional hazards highlighted by participants during the CRB Workshop included flooding from rivers, streams, and other waterways and heat waves resulting in drought. These hazards have direct and increasing impacts on the infrastructure, environment, and residents of and visitors to East Lyme. These effects are seen in residential areas, natural areas (beaches, wetlands, rivers, forests, parks and preserves), businesses, transportation infrastructure (roads, bridges, culvert), municipal facilities, farms, social support services, and other critical assets within East Lyme.

Current Concerns and Challenges Presented by Hazards

The Town of East Lyme has several concerns and faces multiple challenges related to the impacts of natural hazards and climate change. In the last decade, East Lyme has experienced a series of highly disruptive and damaging weather events including Tropical Storm Irene (August 2011), Storm Alfred (October 2011), Super Storm Sandy (October 2012), winter Nor'easter Nemo (February 2013), Tropical Storm Isaias (July 2020), and other less impactful but more frequent events. Impacts from Irene included coastal flooding and inland flooding with wind damage. Sandy caused additional coastal flooding across low lying portions of East Lyme, washing out part of Atlantic Avenue and other beach roads. Storms Alfred and Nemo respectively dropped several feet of snow on the Town knocking out power and isolating residents and neighborhoods for periods of 72 hours or more. The magnitude and intensity of these events and others across Connecticut have increased awareness of natural hazards and climate change, while motivating communities such as East Lyme to proactively improve their resilience.

This series of extreme weather events highlights that the impacts from climate-related hazards are diverse. Workshop participants were generally in agreement that East Lyme is experiencing more intense and frequent storm events, flooding duration and extent, and heat waves. In East Lyme, this includes coastal and riverine flooding of critical infrastructure, bridges, roads, and low-lying areas; localized flooding from stormwater runoff during intense storms and heavy precipitation events; road closures due to flooding and downed trees; property damage from trees, wind, snow, and ice. Longer periods of elevated heat, particularly in July and August, have raised concerns about vulnerable segments of the population including elderly, disabled, and/or isolated residents. The combination of these issues presents a challenge to preparedness and mitigation priorities and requires comprehensive, yet tailored actions for various locations and/or areas across the Town of East Lyme.

Additionally, there was a general concern about the increasing challenges of being prepared for the worst-case scenarios (e.g., major thunderstorms and hurricanes) particularly in the late summer and in the fall/winter months when more intense storms coincide with colder weather (i.e., snow/ice storms, Nor'easters, blizzards). The impact of the current COVID-19 pandemic was raised by workshop participants as well.

Specific Categories of Concerns and Challenges

As in any community, East Lyme is not uniformly vulnerable to hazards and climate change. Certain locations, assets, and populations have been and will be affected to a greater degree than others. Workshop participants identified the following items as their community's key areas of concern and challenges across several broad categories.

Municipal Functions, Operations, & Growth:

- Concerns with ongoing and future development that risk generating additional impacts on roadways and associated stormwater management systems as well as impacts on large tracts of highly productive agricultural lands in northern portions of East Lyme.
- Growing concerns regarding the potential for overdevelopment competing with much needed affordable housing for young professionals and families looking to move to East Lyme as well as retired couples looking to downsize and remain in East Lyme.
- Mass transit, which can reduce fossil fuel emissions, in East Lyme is almost non-existent and difficult to access for most residents. Train line runs through Town but there are no train stops, which would allow for greater accessibility and use of this critical transportation corridor.
- Alternates to automobiles, including bicycle and pedestrian access is disconnected throughout Town resulting in concerns for safety due to dangerous circumstance with traffic volume and speeds.
- Large events held in the downtown area of East Lyme cause extreme parking issues and travel challenges. Parking options in and around beach areas are also limited.
- East Lyme does not have centralized grant writing capacity, which reduces the potential of securing grants to advance identified needs for improvement in facilities, infrastructure, and programs that could increase resiliency within the community.

Emergency Management & Preparedness:

- Current lack of Community Emergency Response Team (CERT) program to help support emergency-related capacity needs in East Lyme.
- Current lack of back-up communications tower associated with the new Emergency Operation Center and the reliance on a fiberoptic system that can become compromised during emergencies. This potential loss of the ability to communicate during times of crises could compromise the emergency response and support services for residents.
- Cycles of drought and intense rainstorms coupled with a warming climate is increasing the risk of vector borne diseases across Connecticut including East Lyme.

Specific Categories of Concerns and Challenges (cont'd)

Stormwater Management System, Drinking Water Aquifers, & Wastewater Systems:

- Currently, stormwater drainage systems have become inadequate and outdated due to the continued increase in magnitude of precipitation events in the last decade. Drainage systems often designed for “ten-year” storms from the 1970s versus 2030s. Cost to replace and/or retrofit is viewed as excessive due to the amount of engineering and installation work required.
- Ongoing challenges providing enough manpower to clear debris that clogs storm drains in advance of major weather events. Frequent flooding of roadways across East Lyme results, especially along portions of Main Street and Pennsylvania Avenue.
- Despite the concerted efforts during the last decade to replace impervious surfaces (i.e., parking lots, roadways, sidewalks, etc.) with pervious surfaces using green stormwater infrastructure there is still a significant need for additional replacement in the downtown district to help manage urban stormwater runoff and localized flooding issues.
- East Lyme’s aquifer, which ranges from the north end of Town down to Niantic, is the shallowest in the state of Connecticut as is in need of further protection to ensure high quality and available drinking water for residents and neighboring communities.
- Growing concerns regarding shortage of water for human use and consumption via the six current public drinking water wells. East Lyme cannot current produce enough water to meet the needs of its residents and must rely on treated water from the city of New London’s drinking water system. This increased demand has required the Town to set restrictions on irrigation uses to help ensure availability of drinking water.
- Aquifer Protection Areas have been reduced in recent years to accommodate development and are currently only “well head protection areas” within close proximity to the six public drinking water wells. Disbandment of the former Aquifer Protection Board has resulted in less comprehensive oversight of development that impacts the quality of drinking water available to residents and neighboring communities.
- Concerns that commercial and state institutions are drawing more than their fair share of available water in East Lyme.
- Sewer pump stations below sea level and at high risk of flooding, particularly the Niantic sewer pump station.

Specific Categories of Concerns and Challenges (cont'd)

Watersheds, Wetlands, Rivers/Streams, Open Space, & Trees:

- Warming climate has subjected a growing number of trees subjected to newly invasive pests and pathogens resulting in dead, stand trees. Dead trees located along roadways that present an immediate concern during windstorms despite recent clearing by Eversource. Invasive species such as the spotted lanternfly has the potential to severely impact Connecticut's agricultural crops as well as native trees.
- Growing need to protect and better manage salt marsh resources in East Lyme to ensure this critical habitat type continues to function including helping to reduce storm surge impacts to people and property along the coastline. This includes better management of salt marsh and estuary resources at the Rock Neck State Park. In addition to the Park's importance as a recreational beach, it's acreage provides essential habitat for the largest alewife spawning population in the state of Connecticut.
- Level of connectivity between current protected open space parcels is less than adequate to ensure the ecosystems in East Lyme can persist given the growing impacts of changes in the climate. Large number of small parcels owned by many private owners creates challenges for open space acquisition that will connect or expand protection between protected parcels.
- Growing impact of invasive plants, pests, and pathogens in and around open space and protected areas in East Lyme and adjoining municipalities.



Credit: All Trails



Credit: Visit Connecticut



Credit: X.com

Current Strengths and Assets

Just as certain locations, facilities, and populations in East Lyme stand out as particularly vulnerable to the effects of hazards and climate change, other features are notable assets for East Lyme's resilience building. Workshop participants identified the following items as their community's key strengths and expressed interest in centering them as the core of future resilience building actions.

Municipal Functions, Operations, & Growth:

- Responsive and committed engagement exhibited by leadership, staff, and residents is a very appreciated strength within and across East Lyme. Ongoing collaboration between municipal staff, commission and board volunteers, the business community, faith-based and non-governmental organizations, adjoining municipalities, Southeastern Connecticut Council of Governments, and various state-wide organizations (i.e., Sustainable CT, The Nature Conservancy), among others, on priorities identified herein will help advance comprehensive, cost-effective, community resilience-building actions.
- East Lyme has a wide diversity of geographies ranging from coastlines along Long Island Sound, active farmlands to the north of town, and active vibrant Main Street and downtown commercial district.
- Multi-generational connection to East Lyme amongst long-standing families that have prioritized caring for the land in Town. These families are hopeful that newer residents will continue this tradition of commitment to the Town's natural resources and additional improvement to the resilience of the community.
- Active and well populated volunteer boards and commissions that achieve a great deal in Town with limited resources.
- Well respected and active elected boards that value input from community members on ways to improve the livability and environment of East Lyme.
- A well respected and appreciated school system allows students several opportunities to learn the value of natural resources in protecting the environment for humans as well as wildlife habitat.
- Hole-in-the-Wall Beach Parking lot was designed as an open classroom demonstrating elements of stormwater management and flood control.

Current Strengths and Assets (cont'd)

- Municipal staff work diligently to maintain and preserve open space including ensuring residents and visitors have access to hiking trails, which are largely maintained by volunteers in East Lyme.
- Boardwalk connecting Cini Beach and Hole in the Wall help to increase community use and connectivity of coastal amenities from the downtown area.
- Downtown area has been planned and developed as a walkable and desirable area for residents and visitors with shops, restaurants, and other welcome destinations.
- Many residents are aware of the importance of natural resources and healthy ecosystems and are careful to help maintain a “village or small-town feel” across East Lyme.
- Municipal staff are respected and considered diligent and hardworking with an emphasis on going above and beyond for residents while managing with limited resources.
- Strong agricultural communities that generate products that are sought after by residents and people from adjoining communities when in season.
- Well respected and honored history in East Lyme that provides valuable insights into how to live more resiliently and sustainable as a community.

Emergency Management & Preparedness:

- East Lyme is rated as a Class 8 Community in the Federal Emergency Management Agencies Community Rating System.
- Police Department does an exceptional job at keeping the community safe, which includes ensuring the downtown area continues to be a draw for residents and visitors, particularly when hosting large events in partnership with the Emergency Department Services. East Lyme hosts events that bring people to the downtown area from all over New England.
- East Lyme’s Emergency Operation Center is brand new with consistent updates in technology to stay up-to-date and better serve the community in times of need.
- East Lyme has an emergency-response related software program where residents can sign up online to share any medical or health special needs privately in event of a community-wide crisis. The software can generate maps with those details that can be used by emergency responders in a response and recovery phase of a disaster.

Current Strengths and Assets (cont'd)

- Multi-jurisdictional sheltering capacity at the East Lyme Middle School.
- All town facilities have emergency back-up power that are maintained regularly.
- The Niantic and East Lyme Fire Departments have recently merged to form the East Lyme Fire Services with the hope of streamlining services and further improving responses to community needs. Paid, full-time Fire Department and Ambulance/EMT staff, who also provide ambulatory care services. Partnership with Mohegan Sun Casino provides paramedics during times of crisis.
- Residents look to help each other during times of crises.

Roads, Bridges, Transportation Networks, & Dams:

- Public Works Department responds quickly and effectively to keep roads clear and safe after major weather events.

Coastline, Watersheds, Wetlands, Beaches, Rivers/Streams, Open Space, & Trees:

- Town is committed to maintaining parks and open spaces for the public.
- Well used and loved natural resource amenities and parks including Rocky Neck State Park and Hole in the Wall. East Lyme as has five beaches that are connected via walking paths and that are largely open to the public.
- Friends of Oswegatchie Hills volunteers and other trail volunteers do a great job maintaining access to and quality of the trail systems in East Lyme.
- Recent controlled burn near Girl Scout Camp to help reduce the potential of wildfire and to help improve the habitat and ecosystems in that portion of East Lyme.
- Alewife run to and from Bride Lake via Bride Brook is largely protected primarily due to large part to land protection resulting from the presence of a federal prison property.
- Recent efforts by Town staff and volunteers have resulted in the acquisition of the Hathaway Property (located in the middle of the north end of town) as well as an open space property called Ravenswood. The Open Space Committee is continuously working to secure other open space properties to create greater connections between existing protected parcels in hopes of further improving recreational opportunities for residents and visitors to East Lyme.

Recommendations to Improve Resilience

A common theme among workshop participants was the need to continue community-based planning efforts focused on developing adaptive measures to reinforce East Lyme's strengths and reduce vulnerability to extreme weather, climate change and other common concerns raised. To that end, the workshop participants helped to identify several priority topics requiring more immediate and/or ongoing attention including:

- **Long-term vision and growth** (i.e., housing, conservation, sustainable economic development, walkability, transportation, agriculture, stormwater management);
- **Infrastructure improvements** (i.e., roads/bridges/culvert, green stormwater infrastructure/management systems, wastewater system, pump stations);
- **Quality of life improvements** (i.e., parks and recreation, open space & accessibility, sustainability, economic prosperity, housing, transportation, local food sourcing);
- **Emergency management** (i.e., communications, outreach, education, continuation of services, business recovery, evacuation, vulnerable populations).

In direct response, the Community Resilience Building Workshop participants developed the following actions and identified, but not ranked, them as priority or as additional actions. Mitigation actions from the East Lyme Hazard Mitigation Plan Annex (2023) are provided in Appendix A for cross reference with actions presented herein. Maps provided during the Workshop, gathered from the East Lyme Hazard Mitigation Plan Annex and Plan of Conservation & Development (2020), and The Nature Conservancy's Southeastern Connecticut Regional Framework for Coastal Resilience (2019), are in Appendix B.

Priority Actions

- Work to increase access to affordable housing by adopting or creating new regulations that lead to truly affordable housing located near transportation, shopping, and employment opportunities in East Lyme.
- Secure funding and complete installation of a communications tower to improve emergency response and coordination via a direct connection through microwave links to Roxbury Road (approximate cost = \$400K).

Priority Actions (cont'd)

- Reinvigorate the Aquifer Protection subcommittee of the Zoning Board to revisit the aquifer protection needs of East Lyme due to drought and increased development expansion. Consider annual joint meetings with the Water and Sewer Department and Commission to focus on the expansion of recharge and aquifer protection regulations within state statute.
- Assess ways to incorporate alternative transportation systems to alleviate automobile traffic issues. Seek funding for connecting sidewalks and bikeways (i.e., “complete street designs”).
- Revisit the 2010 Plan of Conservation and Development assessment plan to pursue establishing a train station and stop in downtown East Lyme with potential siting options to include near the Hole-in-the-Wall parking area. Consider the potential of other downtown building such as the old Police Station as further facilities to support a new train station.
- Explore potential for an energy campaign to increase the deployment of solar on residential homes through a “group-buy” approach to help lower individual costs.
- Perform an energy audit for every municipal-owned building in hopes of prioritizing and accelerating the installation of renewable energy options.
- Continue to identify and protect open space parcels in East Lyme with an emphasis on parcels that connect exiting open space as well as locations that have a high likelihood of reducing risk from flooding and storm surge (i.e., areas in or adjacent to floodplains and salt marsh advancement zones) to further help maintain a higher quality of life and safety for residents.



Credit: White Gale Farm



Credit: Town of East Lyme



Credit: Town of East Lyme

Additional Actions

- Cross reference actions generated through the East Lyme Community Resilience Building process with mitigation actions identified in the East Lyme Hazard Mitigation Plan Annex (2023) (see Appendix A for list of mitigation actions).
- Secure funds and execute existing plans to reinforce sewer pump station with particular focus on the Niantic sewer pump station which is at very high risk of flooding.
- Work towards contributing to the establishment of a regional CERT program through the state's Department of Emergency Management and Homeland Security (Region 4).
- Review and advance approved plan to connect via access road Stoney Wood and Romagna Road in the Bush Hill Road neighborhood to improve access and egress during major flood events.
- Explore the potential for the Town to acquire the old Police Station coupled with an investigation of existing contamination. Old Police Station represents a prime downtown location that could be used to provide many different public benefits to residents and visitors. Consider opportunity to connect with neighboring St. Johns property.
- Look to identify, acquire, and protect low-lying areas adjoining river, streams, and wetlands with the intention of increasing natural flood storage within East Lyme away from people and property.
- Continue to partner with organizations like the Eastern Connecticut Conservation District that can support residential (sometimes commercial) green stormwater infrastructure programs, such as provisioning of rain barrels as well as rain garden installations.
- Provide educational materials to homeowners on how to better manage stormwater runoff at their homes including step-by-step guidance on planning and installing rain gardens to trap and retain precipitation from roof leaders and downspouts.

Additional Actions (cont'd)

- Continue to support the work of the Historic Resources Commission that is focused on preserving and maintaining historic buildings in East Lyme.
- Considering ongoing water shortages during the summer month, consider establishing and enforcing more stringent water conservation restrictions including on watering of residential and commercial lawns.
- Look for way to encourage and potentially incentive the installation of green roofs on commercial building in East Lyme.
- Explore interest in creating an “ambassador program” to help welcome new families to East Lyme.
- Assess whether all forms of municipal outreach to residents is provided in multiple languages to accommodate the changing make up of East Lyme.
- Look to maintain and potentially increase funding for road and subsurface road maintenance in hopes of elevating the overall resilience of transportation infrastructure and related stormwater management infrastructure.
- Assess the level of water use by commercial enterprises in East Lyme in comparison to the needs of residents at the household level.
- Move forward on identified raising or roadways and/or improving drainage in key segments along the coast in East Lyme (see Appendix A – 2023 East Lyme Hazard Mitigation Plan Actions).
- Look to advance the Lower Niantic Watershed Resilience Vision to help ensure ecosystems and the adjoining community become more resilient: (<https://tnc.box.com/s/ryskw7q1tas2cw3qrv5do3w76f0ddo7f>).

CRB Workshop Participants: Department/Organization

Town of East Lyme – Board of Selectmen

Town of East Lyme – Engineering Department

Town of East Lyme – Public Works Department

Town of East Lyme – Emergency Management Department

Town of East Lyme – Natural Resources Commission

Town of East Lyme – Zoning Commission

Town of East Lyme – Planning Commission

Town of East Lyme – Inland Wetland Agency

Niantic Main Street

East Lyme High School

East Lyme Pollinator Pathways

East Lyme CRB Core Project Team

Rose Ann Hardy – Board of Selectman, East Lyme

Penny Howell-Heller – Chair, Natural Resource Commission, East Lyme

Harvey Beeman – Member, Natural Resource Commission, East Lyme

Laura Ashburn, Vice Chair, Natural Resource Commission, East Lyme

Online CRB Workshop Facilitation Team

The Nature Conservancy – Adam Whelchel, Ph.D. (Lead Facilitator)

Sustainable CT – Jessica LeClair (Small Group Facilitator)

Sustainable CT – Torin Radicioni (Scribe)

Sustainable CT – Inez Ortiz (Scribe)

Sustainable CT – Dorothy Piszczek (Scribe)

The Nature Conservancy – Timothy Clark (Scribe)

The Nature Conservancy – Jessica Cañizares (Scribe)

Recommended Citation

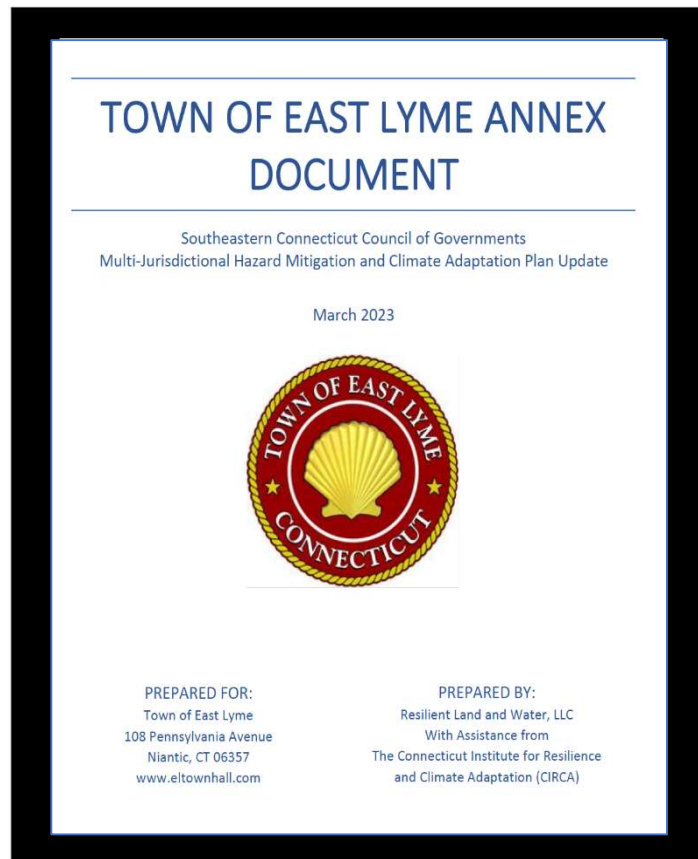
Town of East Lyme Online Community Resilience Building Workshop - Summary of Findings Report. (2024). Community Resilience Building Program. The Nature Conservancy and Sustainable CT. East Lyme, Connecticut.

Acknowledgements

Special thanks to the Town leadership, staff, and community members for their willingness to embrace the process in hopes of a more resilient, sustainable, and equitable future for East Lyme. This online Community Resilience Building Workshop was made possible in large part through the dedicated contribution of the facilitation team members who skillfully conducted the East Lyme Community Resilience Building workshop in close partnership with the Town's CRB Core Project Team.

Appendix A

Town of East Lyme Mitigation Action Plan and Actions*



***Gathered from Southeastern Connecticut Council of Governments Hazard Mitigation Plan – Town of East Lyme Annex (2023).**

Table 8-1 Town of East Lyme Actions and STAPLEE and PERSISTS Scores

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	PERSISTS Score	STAPLEE Score	PERSISTS x STAPLEE =
EL1	Research and pursue mitigation strategies and funding to promote the resiliency of Town-owned critical facilities including assessment of flood, wind, and snow loading; backup power, etc. Determine recommendations for subsequent consideration.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Building Official	\$25,000 - \$50,000	FEMA HMA; Other preparedness grants; STEAP	7/2023 - 6/2025	Medium	21	6	126
EL2	Acquire and install new communications tower at Public Safety Building.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Emergency Management	\$100,000 - \$500,000	Preparedness grants	7/2023 - 6/2025	High	13	3	39
EL3	Distribute hazard mitigation and preparation materials at Town-sponsored events and coordinate with activities needed for CRS maintenance.	More than one goal	Education & Awareness	Emergency Management	\$0 - \$10,000	Municipal Operating Budget	7/2023 - 12/2023	Low	13	5	65
EL4	Evaluate the feasibility of designating a new cooling center in the northern part of East Lyme; and secure reliable transportation options for people to access cooling centers.	Ensure that critical facilities are resilient, with special attention to shelters and cooling centers.	Preparedness & Emergency Response	Office of the Chief Elected Official	\$25,000 - \$50,000	FEMA HMA; Other preparedness grants; STEAP	7/2023 - 6/2025	Low	16	5	80
EL5	Identify any possible hazard mitigation techniques and funding sources for water and sewer infrastructure, particularly water wells, booster pump station and wastewater pump stations. Employ these funds to dry floodproof or	More than one goal	Water & Wastewater Utility Projects	Water & Sewer	\$500,000 - \$1M	CWSRF; DWSRF; FEMA HMA; STEAP	7/2024 - 6/2026	High	21	7	147

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	PERISTS Score	STAPLEE Score	PERISTS x STAPLEE =
	relocate facilities located in hazardous coastal areas or other areas prone to flooding to mitigate water and sewer service disruption and environmental releases during disaster events.										
EL6	Execute one additional sewer pumping station resiliency project (floodproofing or standby power).	More than one goal	Water & Wastewater Utility Projects	Water & Sewer	\$100,000 - \$500,000	FEMA HMA; CWSRA; STEAP	7/2024 - 6/2026	High	20	9	180
EL7	Enhance resiliency of Water and Sewer Communication Infrastructure, including standby power generation at communication hubs (water towers, relay stations). Primary communication systems should be provided with secondary backup communication systems, preferably using different technologies and/or locations to mitigate outages during disaster events or vandalism.	More than one goal	Water & Wastewater Utility Projects	Water & Sewer	\$500,000 - \$1M	CWSRF; DWSRF; FEMA HMA; STEAP	7/2024 - 6/2026	High	14	7	98
EL8	Increase site security at all water and wastewater facilities by providing video surveillance outside and in some cases inside critical facilities to monitor locations in the event that personnel cannot safely access facilities during a disaster event or to ensure site security is not compromised. Sites should also be evaluated for the integrity of existing barriers such as gates and	More than one goal	Water & Wastewater Utility Projects	Water & Sewer	\$500,000 - \$1M	CWSRF; DWSRF; STEAP; IJIA SLCGP	7/2024 - 6/2026	High	14	3	42

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	PERISTS Score	STAPLEE Score	PERISTS x STAPLEE =
	fencing and make improvements where necessary.										
EL9	In accordance with the recommendations of the historic and cultural resources resiliency planning effort in 2016-2017, determine if any at-risk structures that are not yet eligible for historic designation may be eligible in the future. Determine possible risks to historic properties and identify possible mitigation efforts.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Land Use Staff	\$10,000 - \$25,000	SHPO	7/2025 - 6/2026	Low	15	7	105
EL10	Conduct a study and develop a policy and procedure for upgrading stormwater collection and discharge systems to keep up with sea level rise, storm frequency and intensity, and aging infrastructure. This procedure will specify when and how system components should be upgraded or retrofitted, and how this could be integrated into capital improvement, and identify other possible resilient stormwater management infrastructure funding opportunities.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Structural Projects	Public Works	\$50,000 - \$100,000	Municipal Operating Budget	7/2024 - 6/2026	Medium	22	9	198
EL11	Fund and construct secondary egress for the Bush Hill Drive neighborhood along the town-owned right-of-way.	Invest in resilient corridors to ensure that people and services are accessible during floods and that	Structural Projects	Public Works	\$500,000 - \$1M	Municipal CIP Budget	7/2023 - 6/2025	Medium	14	2	28

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	PERISTS Score	STAPLEE Score	PERISTS x STAPLEE =
		development along corridors is resilient over the long term.									
EL12	Conduct feasibility study to elevate at-risk sections of Atlantic Street.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Public Works	\$10,000 - \$25,000	DEEP Climate Resilience Fund; LOTCIP; Municipal CIP Budget	7/2024 - 6/2025	High	17	5	85
EL13	Conduct feasibility study to elevate at-risk sections of Bush Hill Road.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development along corridors is resilient over the long term.	Structural Projects	Public Works	\$10,000 - \$25,000	DEEP Climate Resilience Fund; LOTCIP; Municipal CIP Budget	7/2025 - 6/2026	High	17	5	85
EL14	Conduct feasibility study to elevate at-risk sections of Brook Road.	Invest in resilient corridors to ensure that people and services are accessible during floods and that development	Structural Projects	Public Works	\$10,000 - \$25,000	DEEP Climate Resilience Fund; LOTCIP; Municipal CIP Budget	7/2026 - 6/2027	High	17	5	85

Number	Hazard Mitigation and Climate Adaptation Actions	Hazard Mitigation and Climate Adaptation Goal	Type of Action	Responsible Department	Approx. Cost Range	Potential Funding Sources	Timeframe	Priority	PERISTS Score	STAPLEE Score	PERISTS x STAPLEE =
		along corridors is resilient over the long term.									
EL15	Work with CT DEEP to update the list of repetitive loss properties and ensure that errors and updates are incorporated by FEMA.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Floodplain Manager	\$0 - \$10,000	Municipal Operating Budget	7/2023 - 12/2023	High	12	6	72
EL16	Conduct direct outreach to property owners in repetitive loss areas with information about how to mitigate flood losses, and coordinate with CRS activities.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Property Protection	Floodplain Manager	\$0 - \$10,000	Municipal Operating Budget	1/2024 and annually during January	High	13	4	52
EL17	Require floodplain manager and land use staff to take free training at https://portal.ct.gov/DEEP/P2/Chemical-Management-and-Climate-Resilience/Chemical-Management-and-Climate-Resilience to reduce risks of spills from businesses during floods.	Reduce flood and erosion risks by reducing vulnerabilities and consequences, even as climate change increases frequency and severity of floods.	Education & Awareness	Land Use Staff	\$0 - \$10,000	Municipal Operating Budget	7/2023 - 12/2023	Low	14	6	84

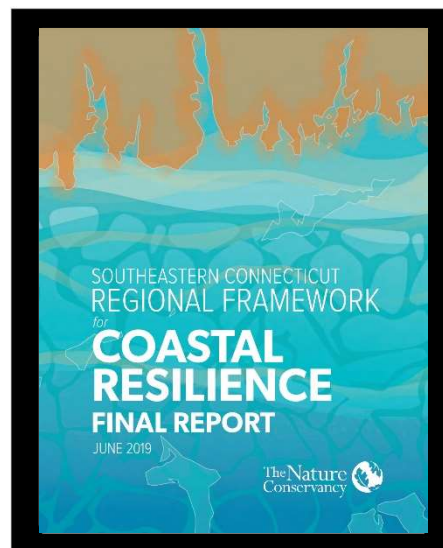
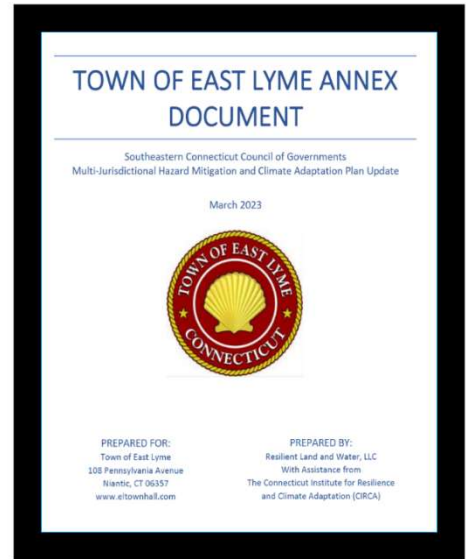
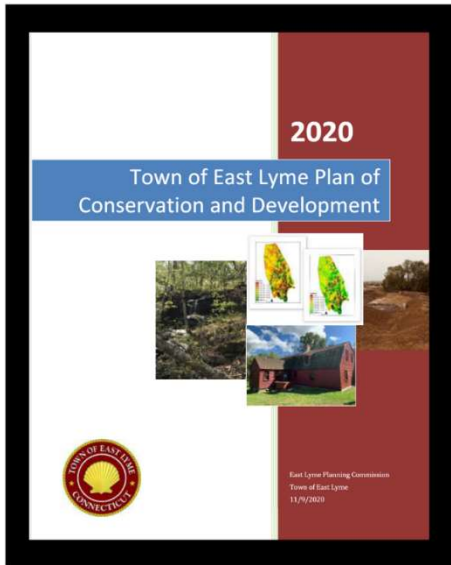
Appendix B

Town of East Lyme

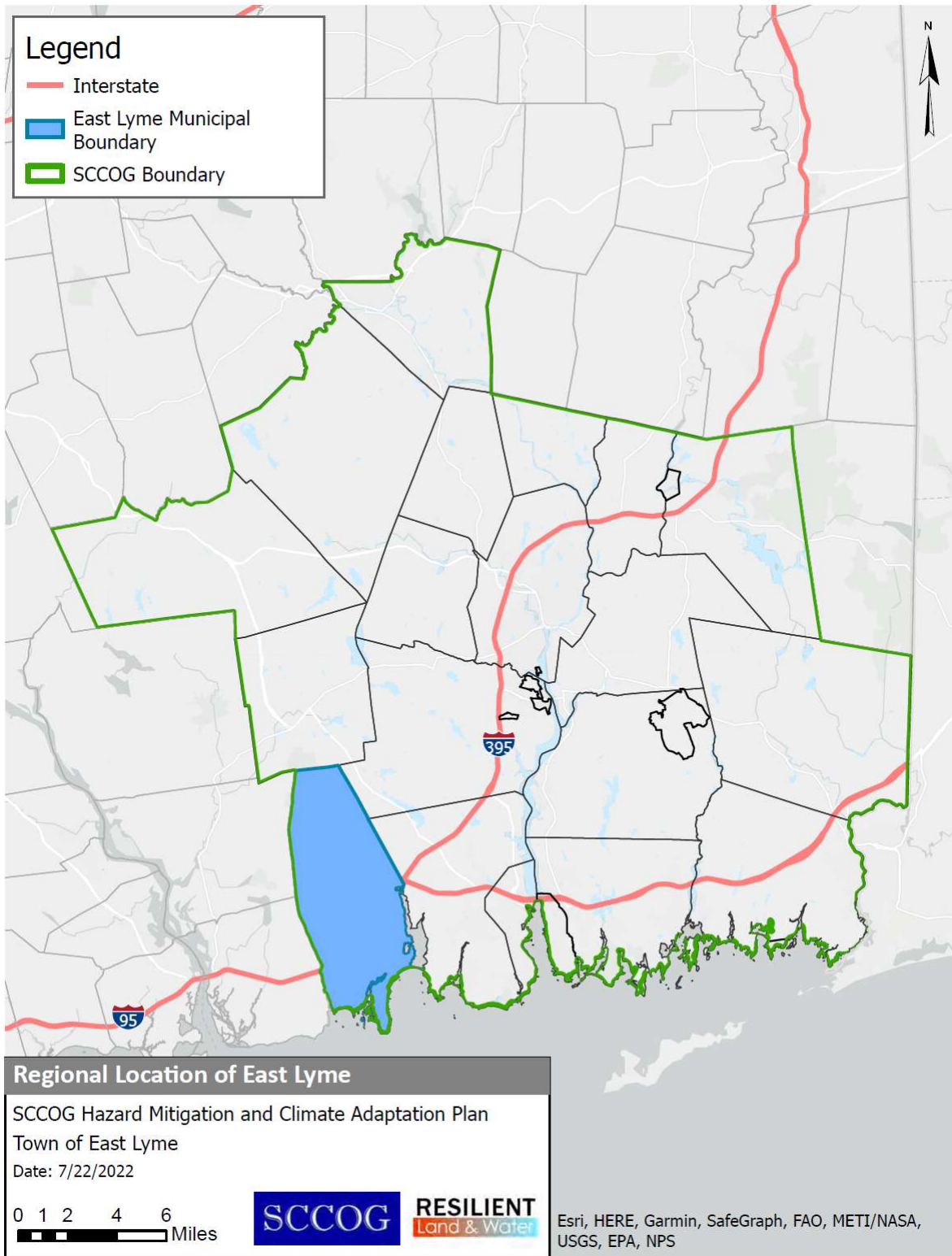
Map Resource Packet*

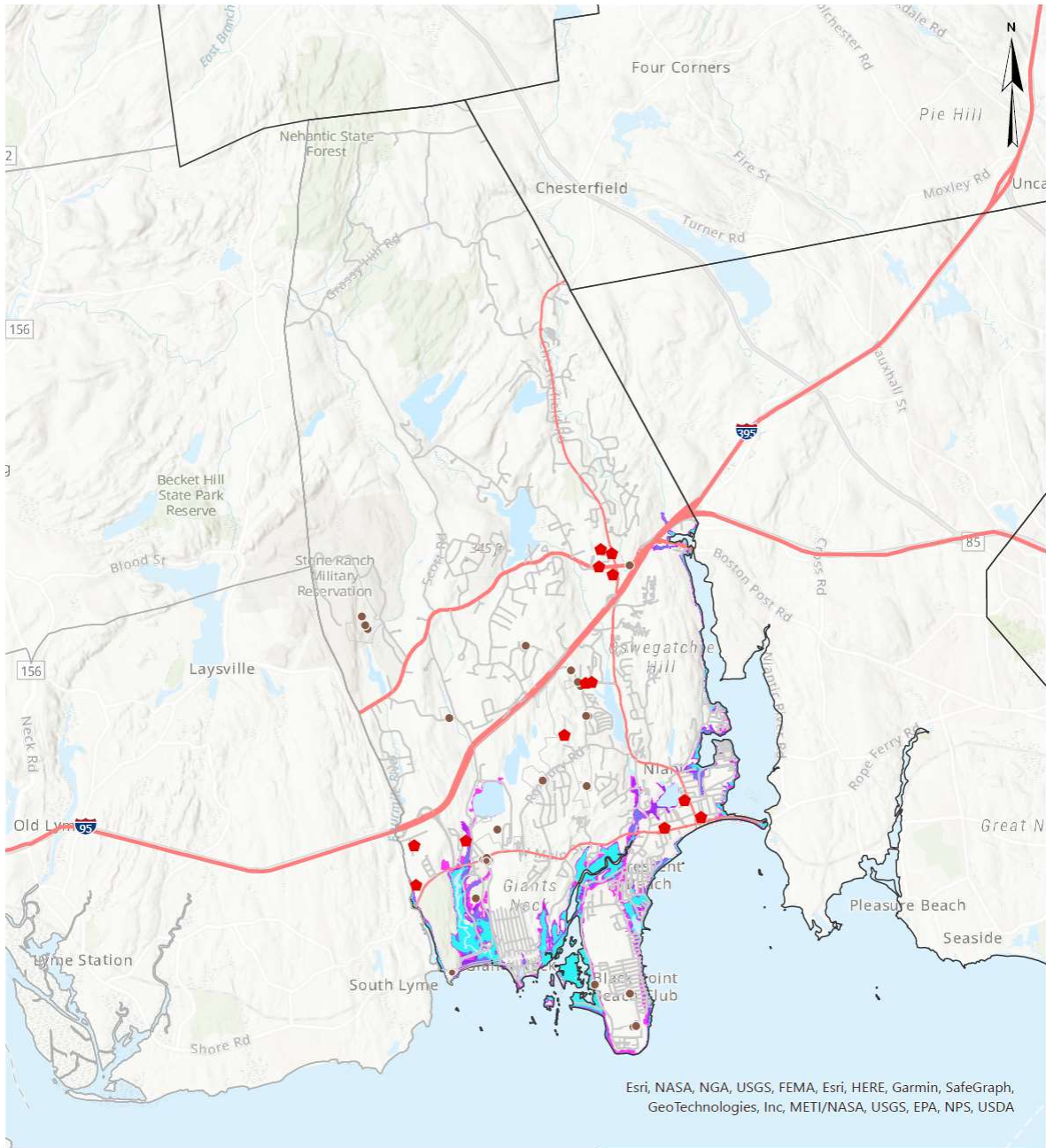
Used During

Workshop



***Gathered from East Lyme’s Plan of Conservation & Development (2020), Southeastern Connecticut Council of Governments Hazard Mitigation Plan - East Lyme Annex (2023), The Nature Conservancy’s Southeastern Connecticut Regional Framework for Coastal Resilience (2019).**





Hurricane Storm Surge Inundation Areas

SCCOG Hazard Mitigation and Climate Adaptation Plan
 Town of East Lyme
 Date: 8/2/2022

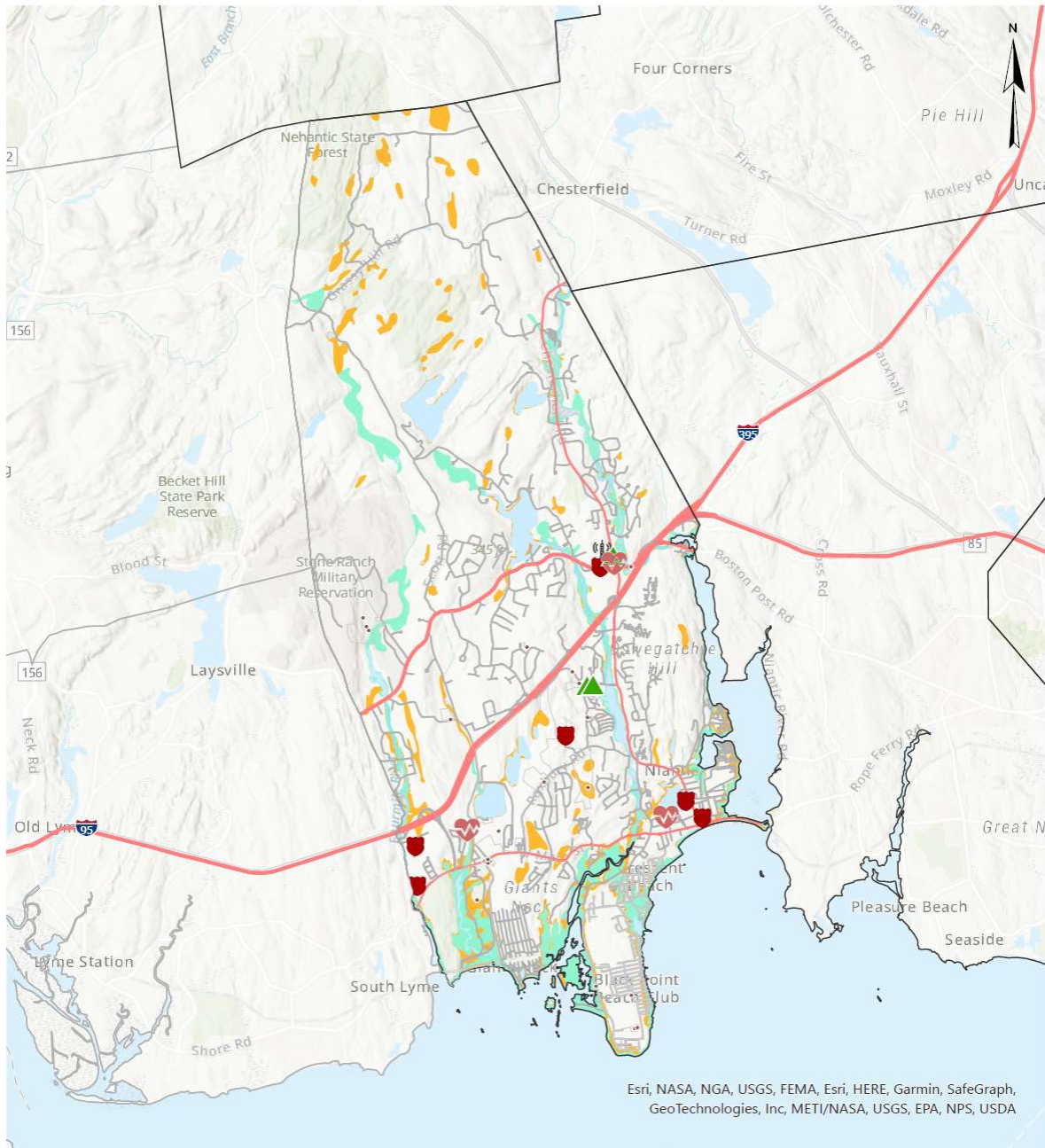
0 0.55 1.1 1.65 2.2 Miles

Legend

- Historic Resources
- Critical Facilities

Hurricane Category

- 1
- 2
- 3
- 4

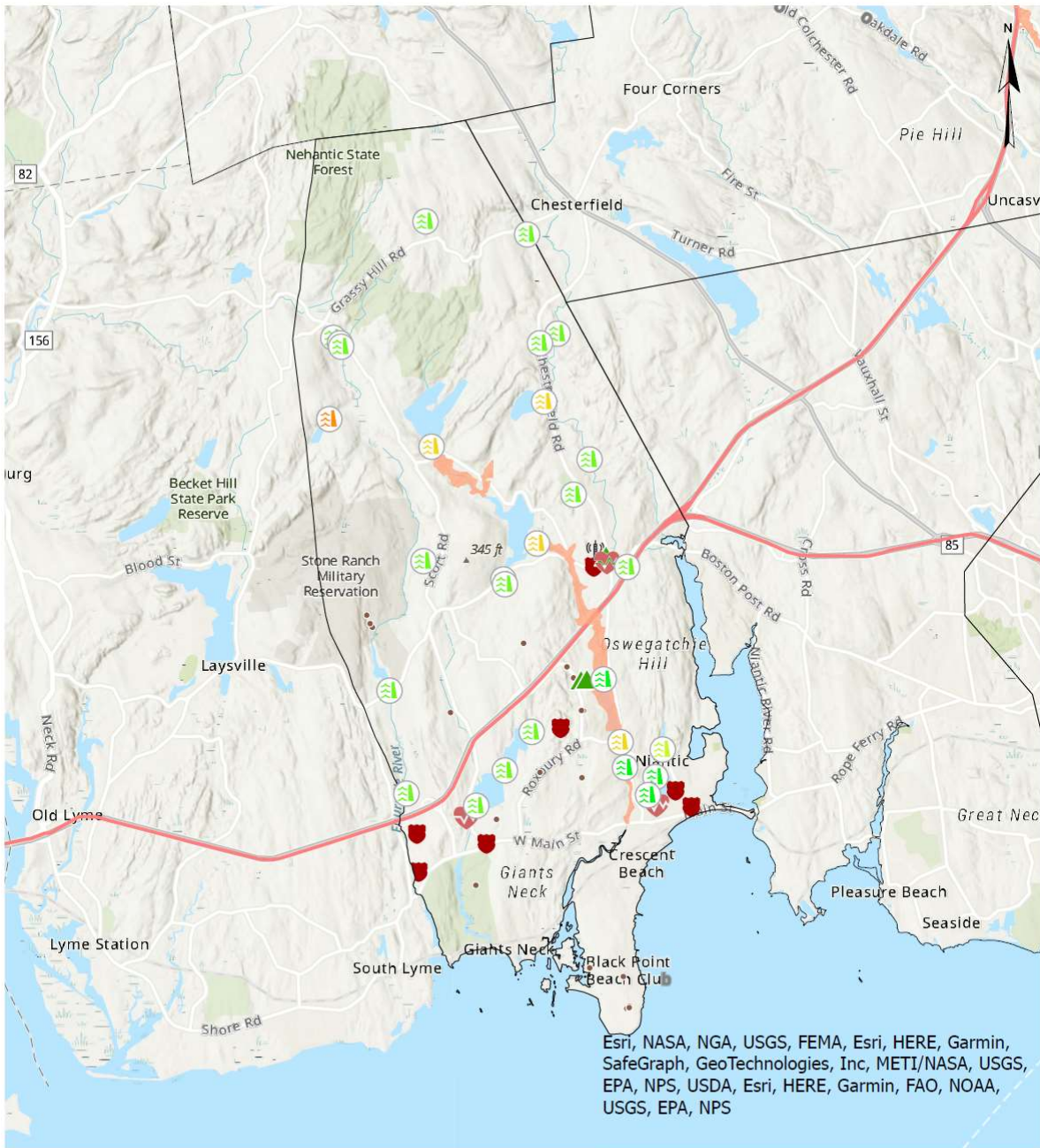


Esri, NASA, NGA, USGS, FEMA, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA

Critical Facilities and Historic Resources with Flood Zones
 SCCOG Hazard Mitigation and Climate Adaptation Plan
 Town of East Lyme
 Date: 8/1/2022

Legend

- Historic Resources
- Care and Medical Facility
- Emergency Services
- Shelter or Cooling Center
- 1% Annual Chance Flood Hazard Area
- .2% Annual Chance Flood Hazard Area
- Floodway
- Communication Infrastructure

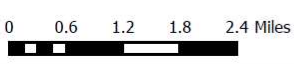


Esri, NASA, NGA, USGS, FEMA, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS

Dams and Dam Failure Inundation Areas

Southeastern Connecticut Council of Governments Town of East Lyme

Date: 2/23/2023



Legend

- Dams
 - Unknown/Unclassified
 - A
 - AA
 - B
 - BB
- Historic Resources
- Communication Infrastructure
- Emergency Services
- Shelter or Cooling Center
- Care and Medical Facility
- Dam Failure Inundation Area

Figure 15 Evacuation zones (A and B) and major routes.

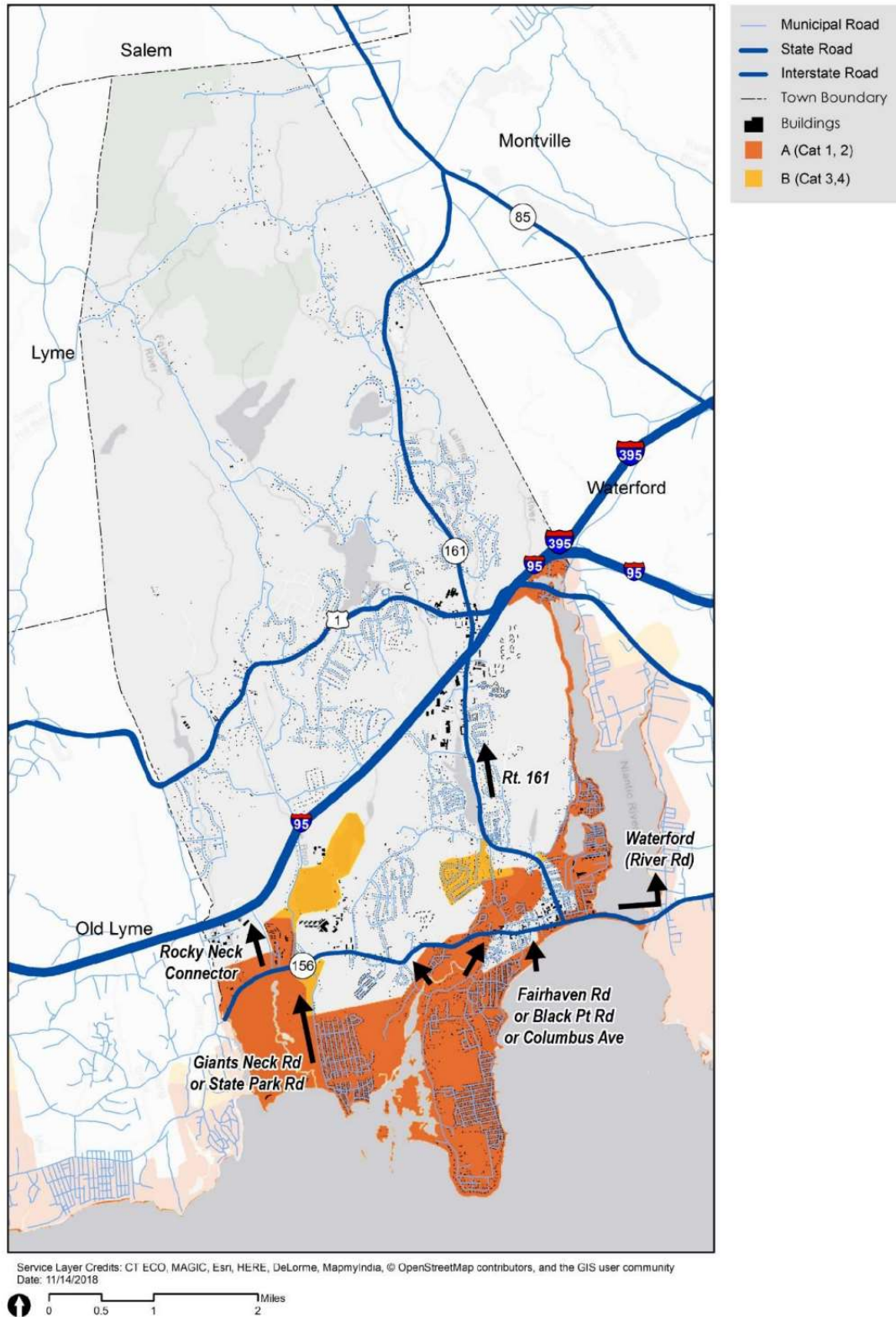


Figure 4 - FEMA Flood Zones and Structures Impacted by 24" of Sea Level Rise (SLR)

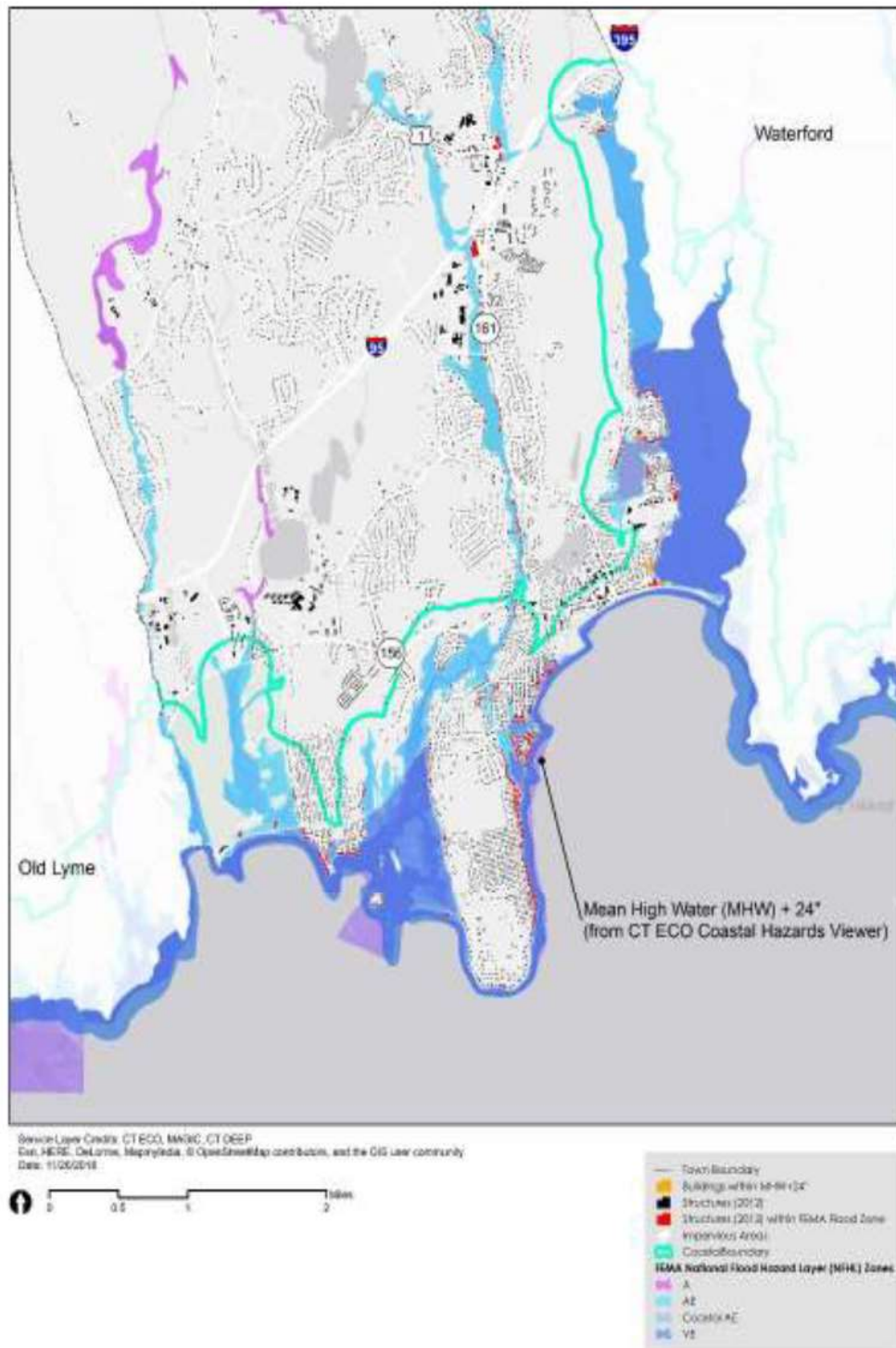


Figure 1 - Coastal Boundary & Resources

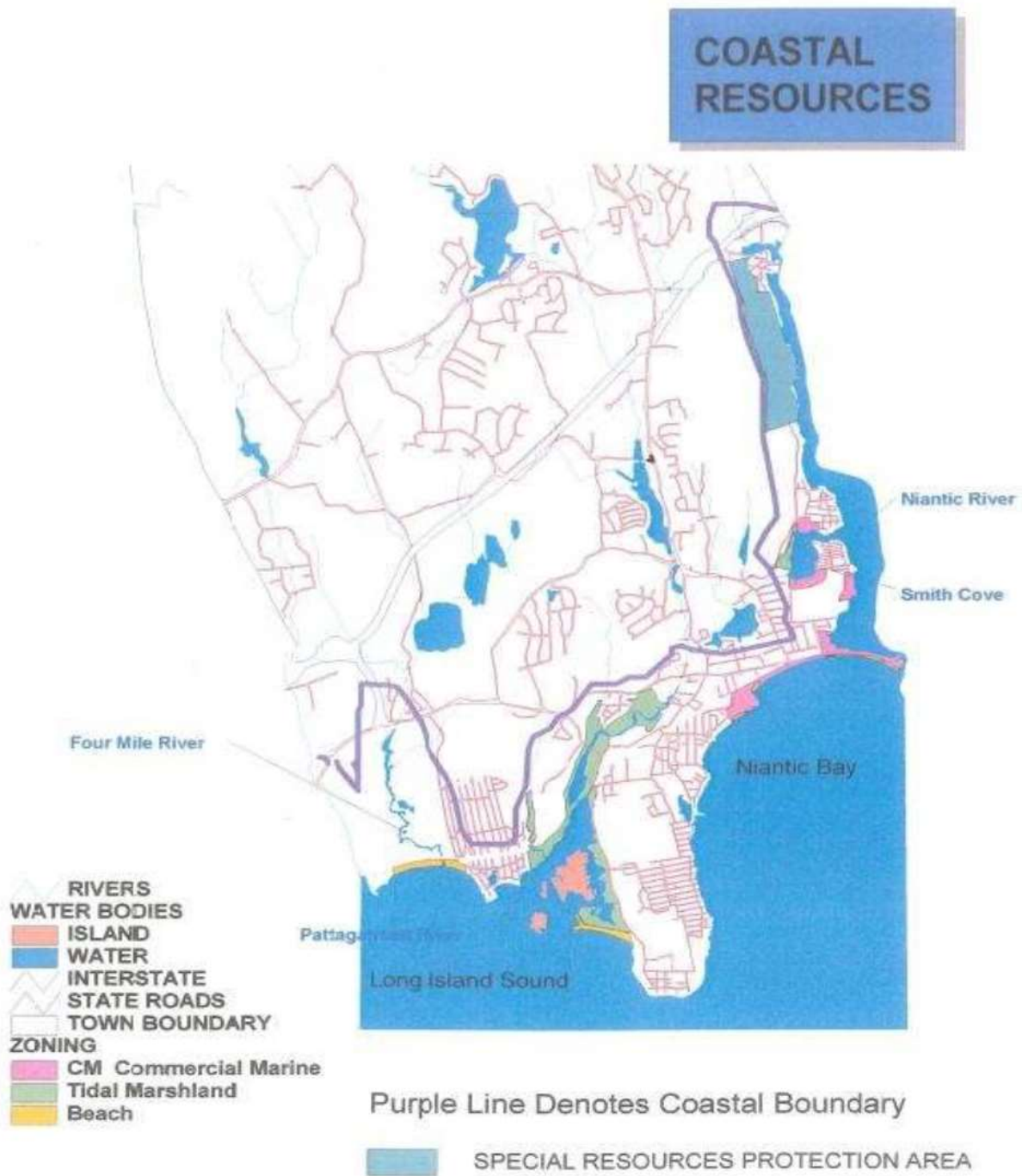


Figure 8 Land use.

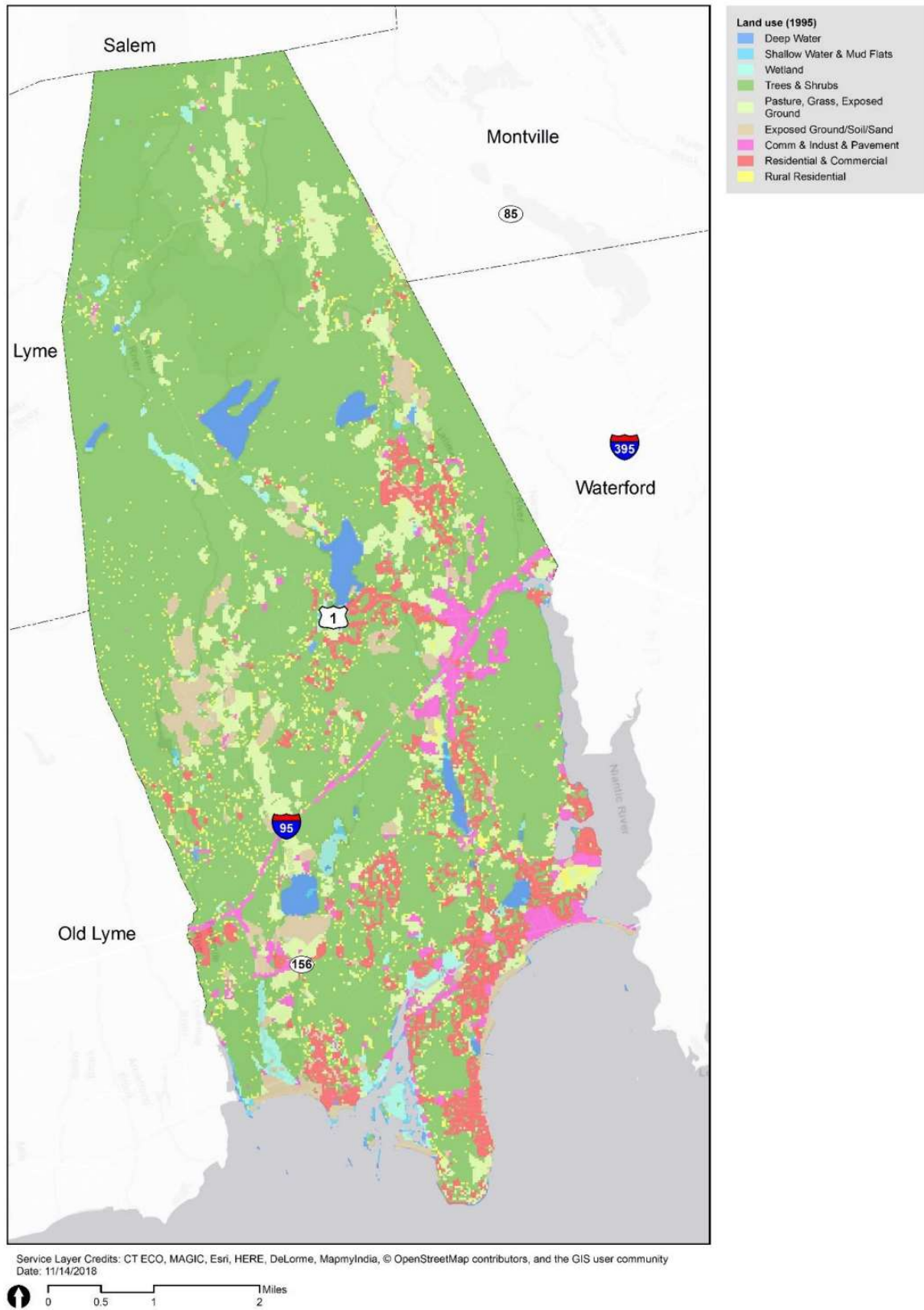


Figure 6 - NRC Open Space Plan

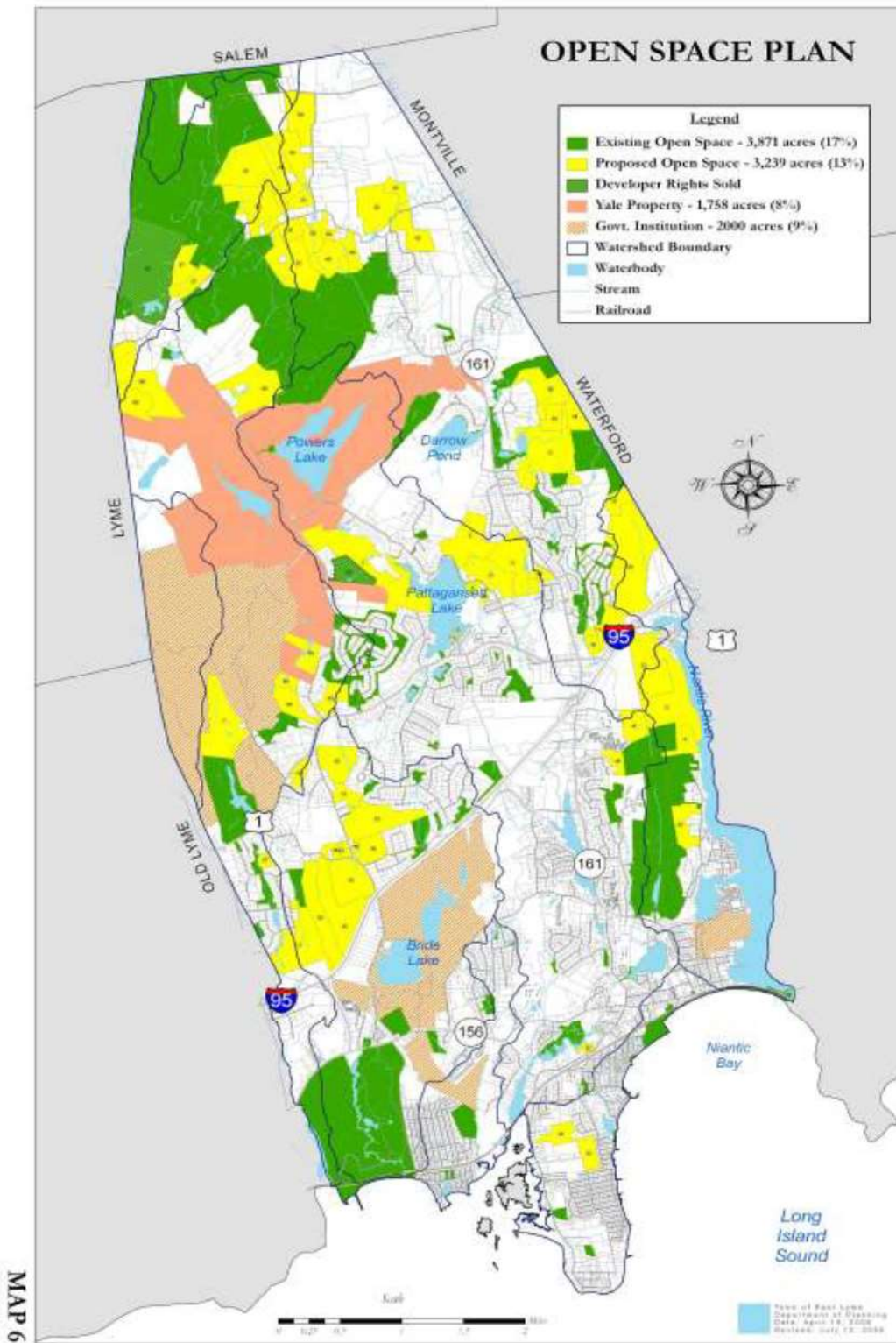


Figure 8 - Open Space Vision

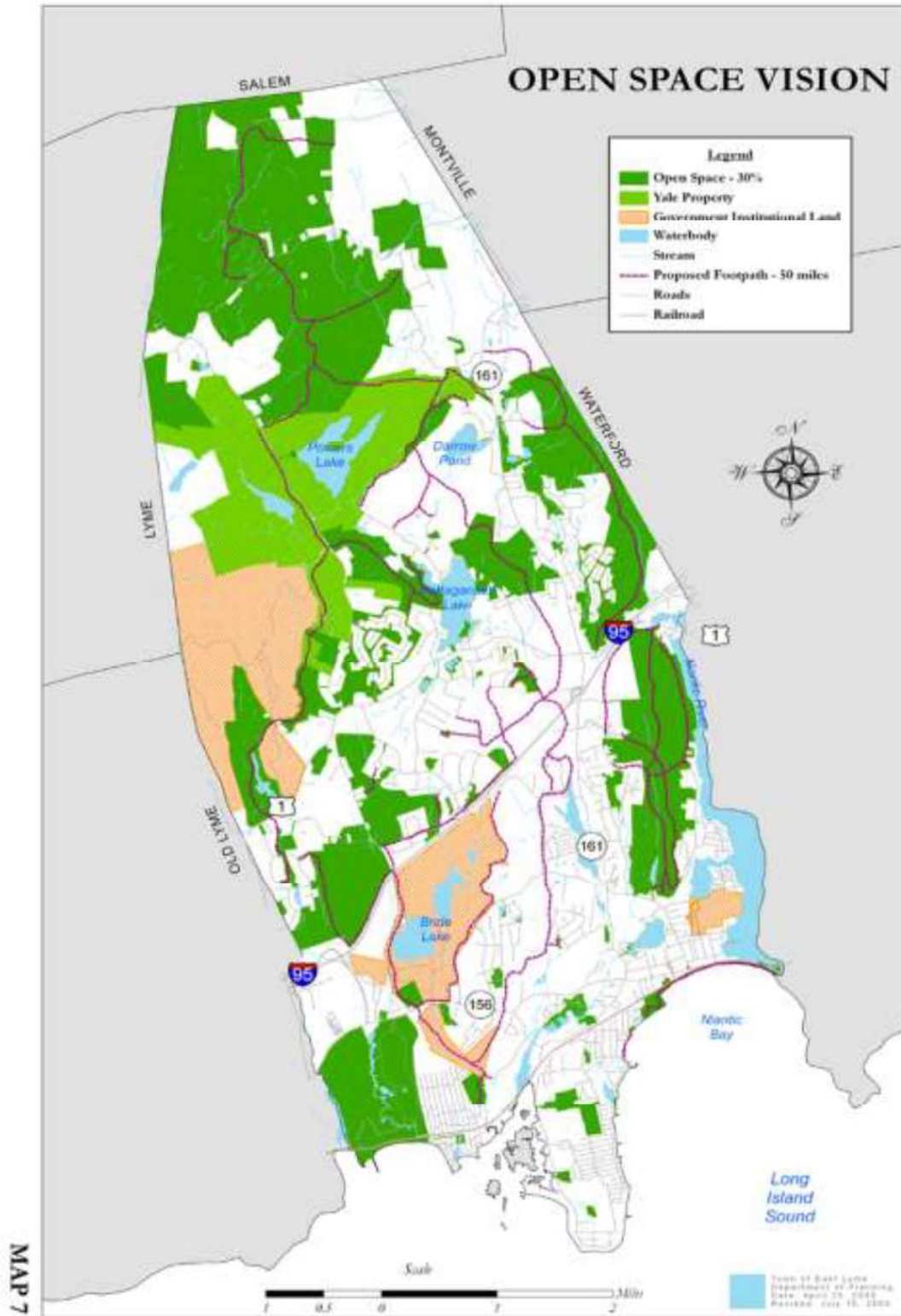


Figure 7 - Major Watersheds & Aquifers

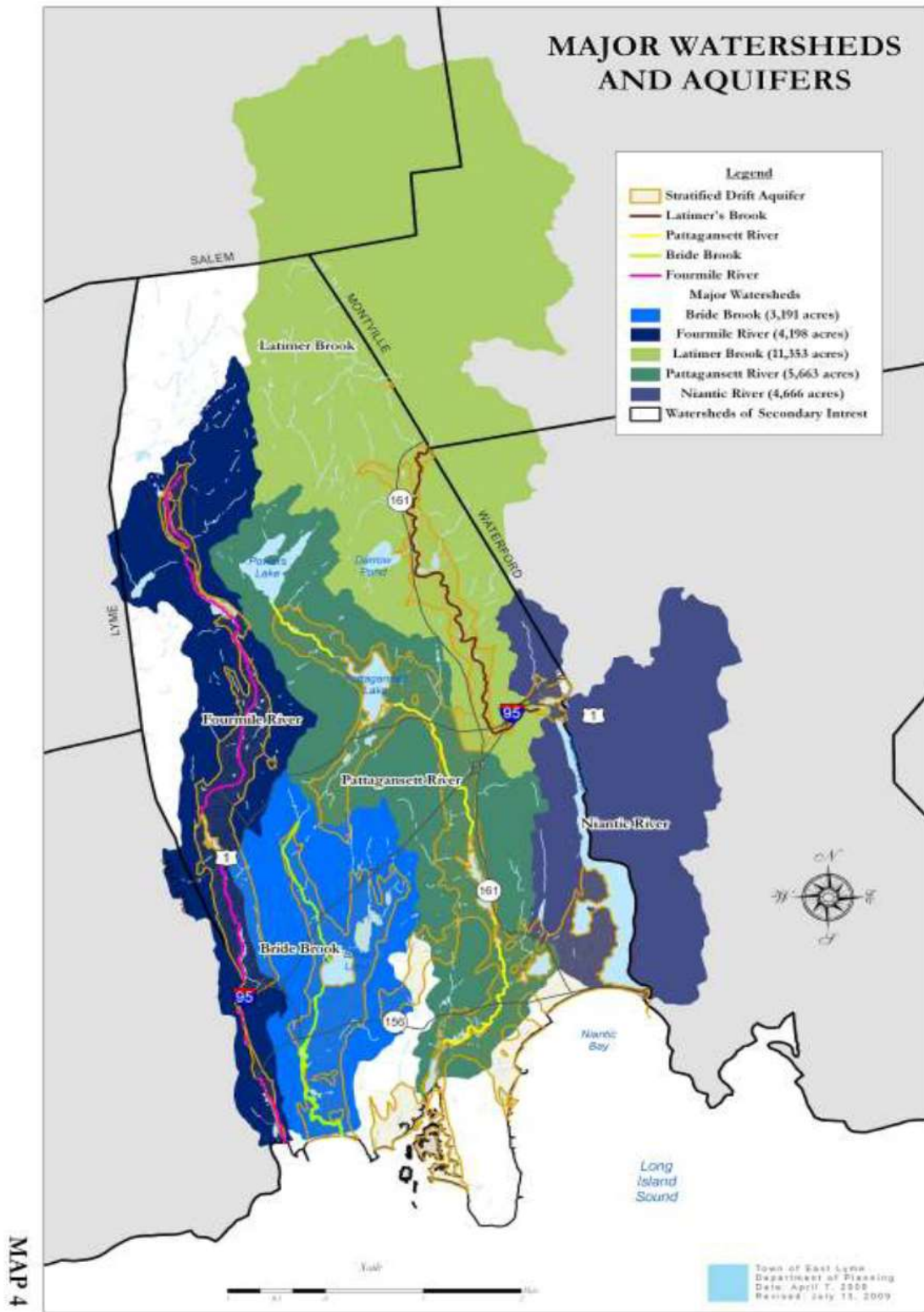


Figure 10 - Niantic River Watershed

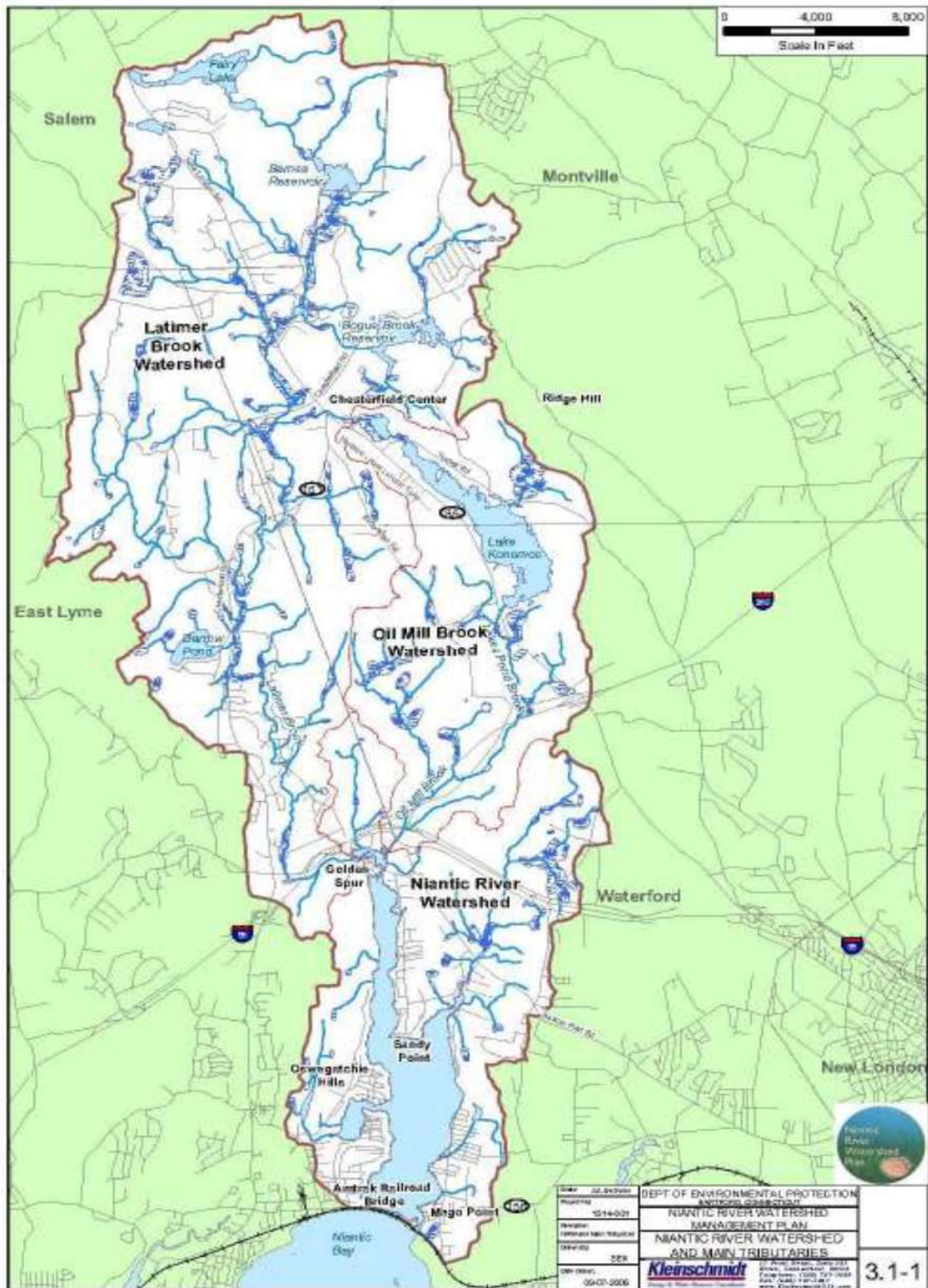


Figure 14 - Commercial Zoning Districts

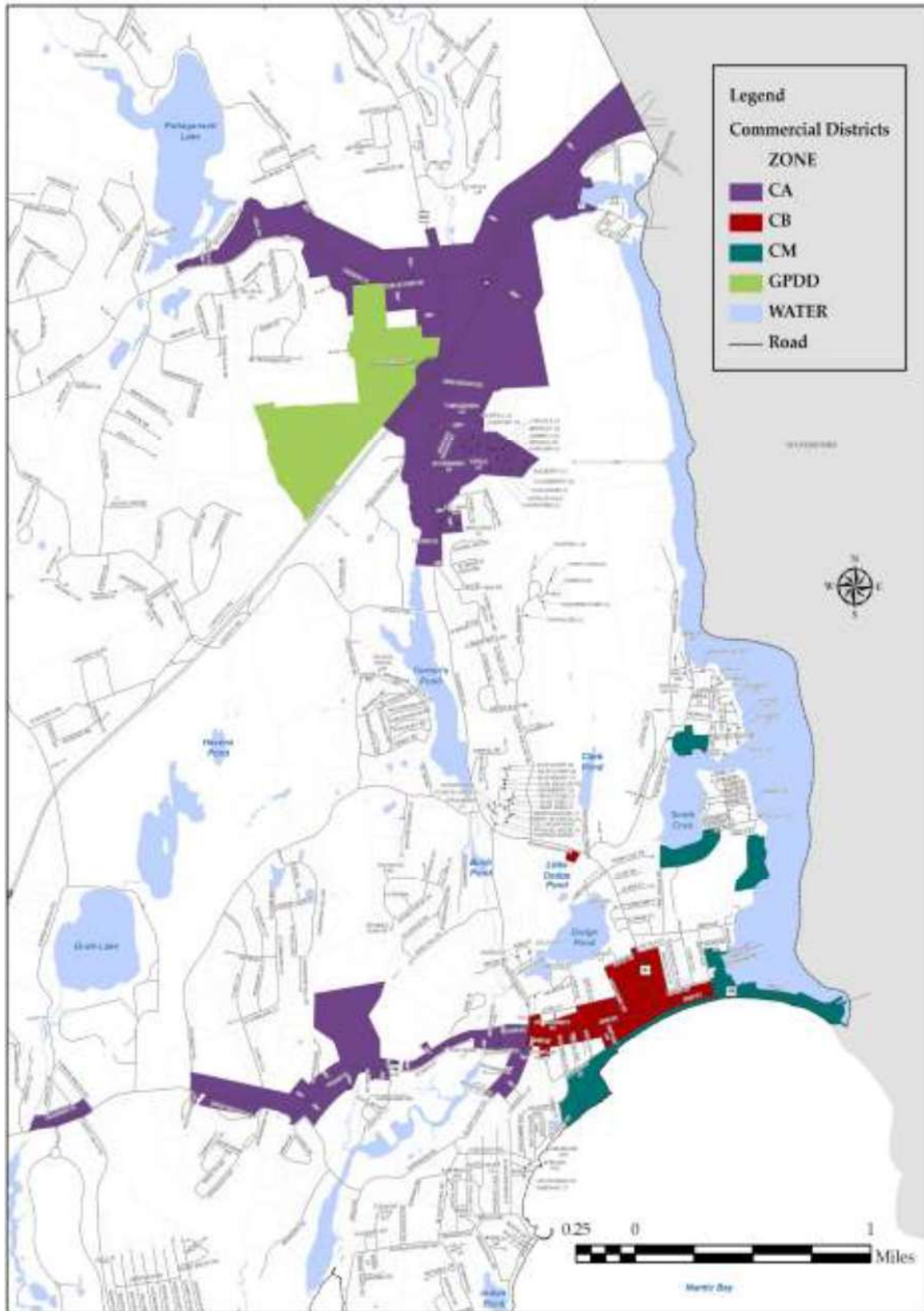


Figure 7 Agricultural land.

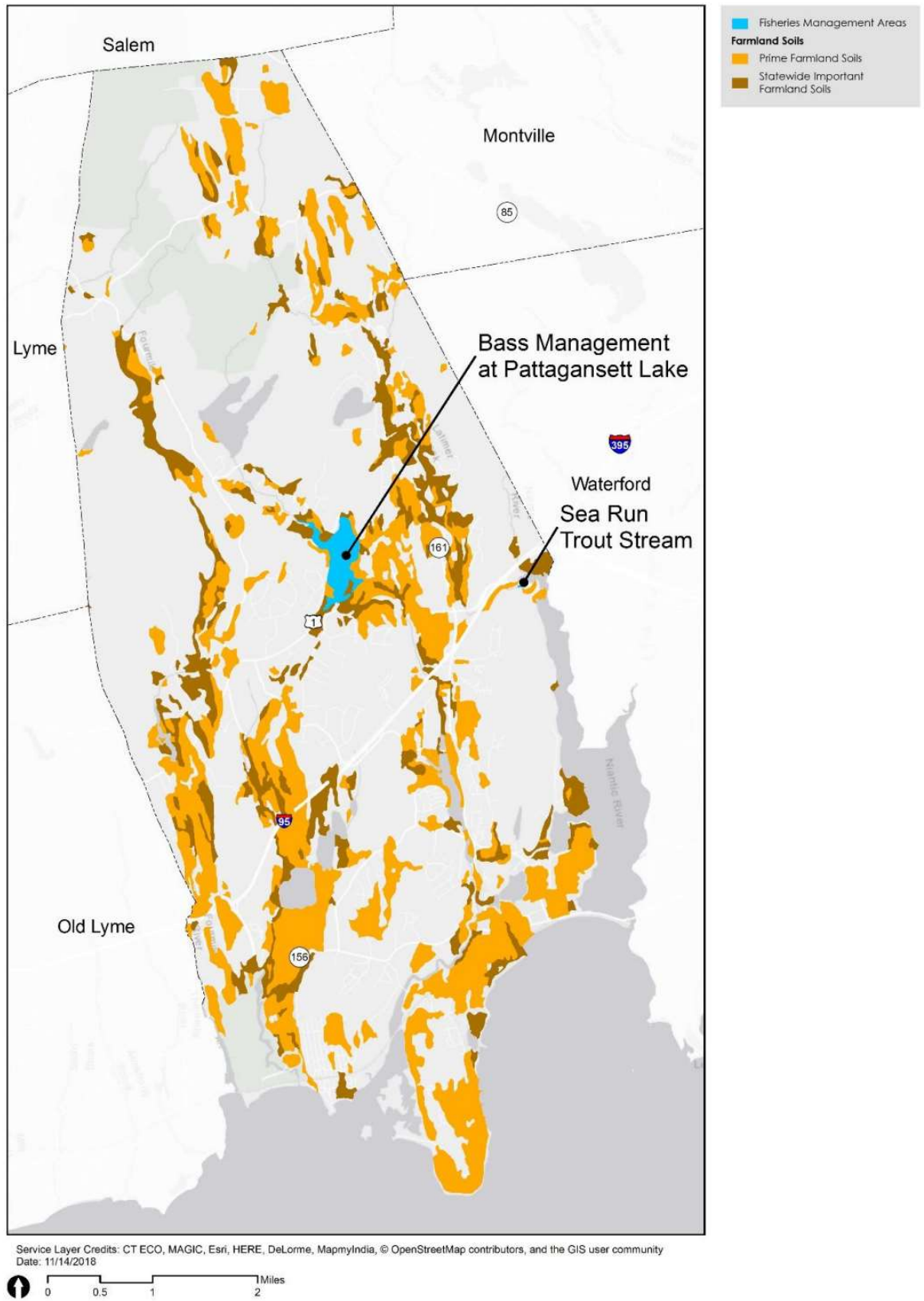


Figure 6 Surface and ground water.

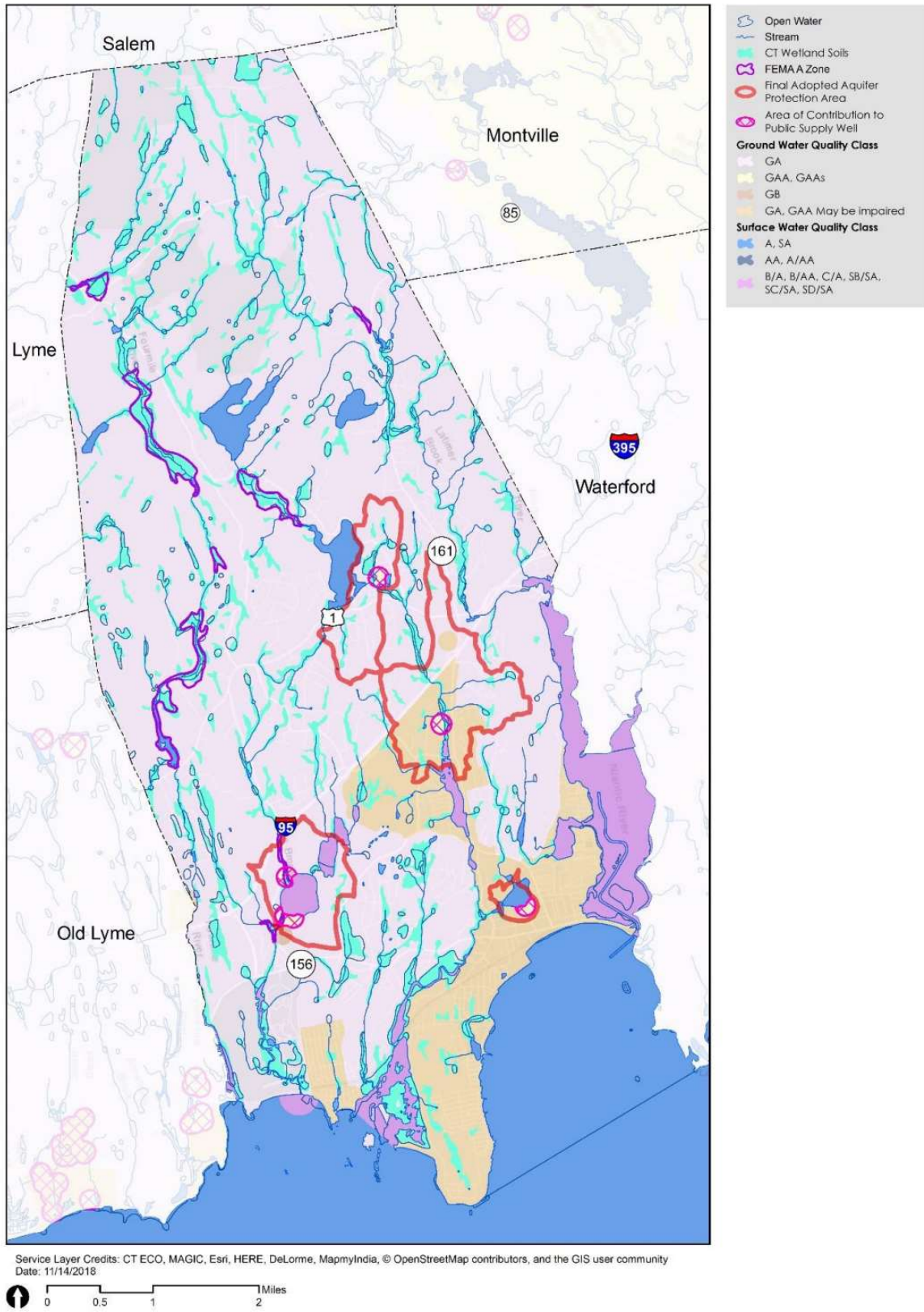


Figure 25 - Sewershed Boundary

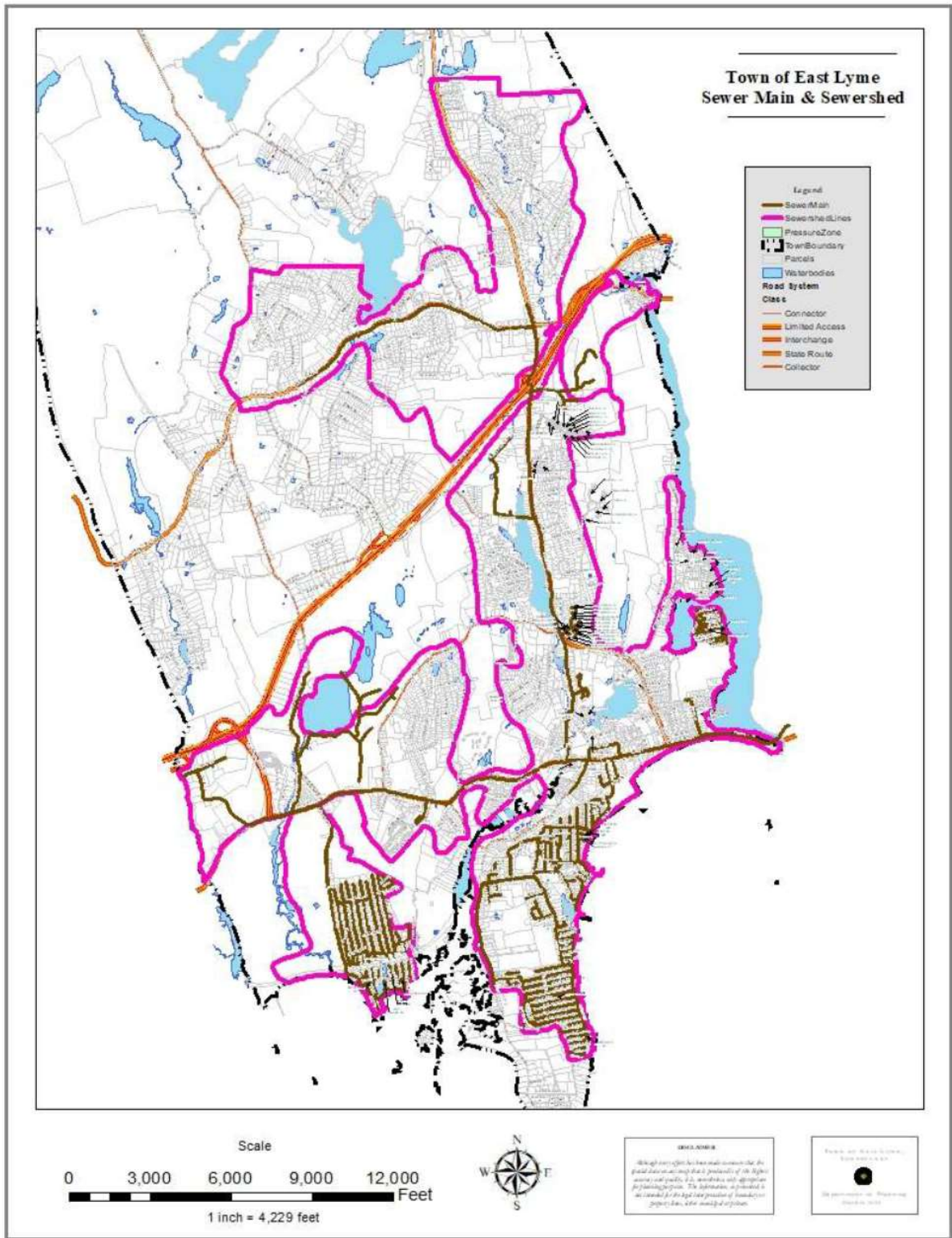


Figure 28 - Existing roads, Sidewalks, Trails and Bicycle Lanes

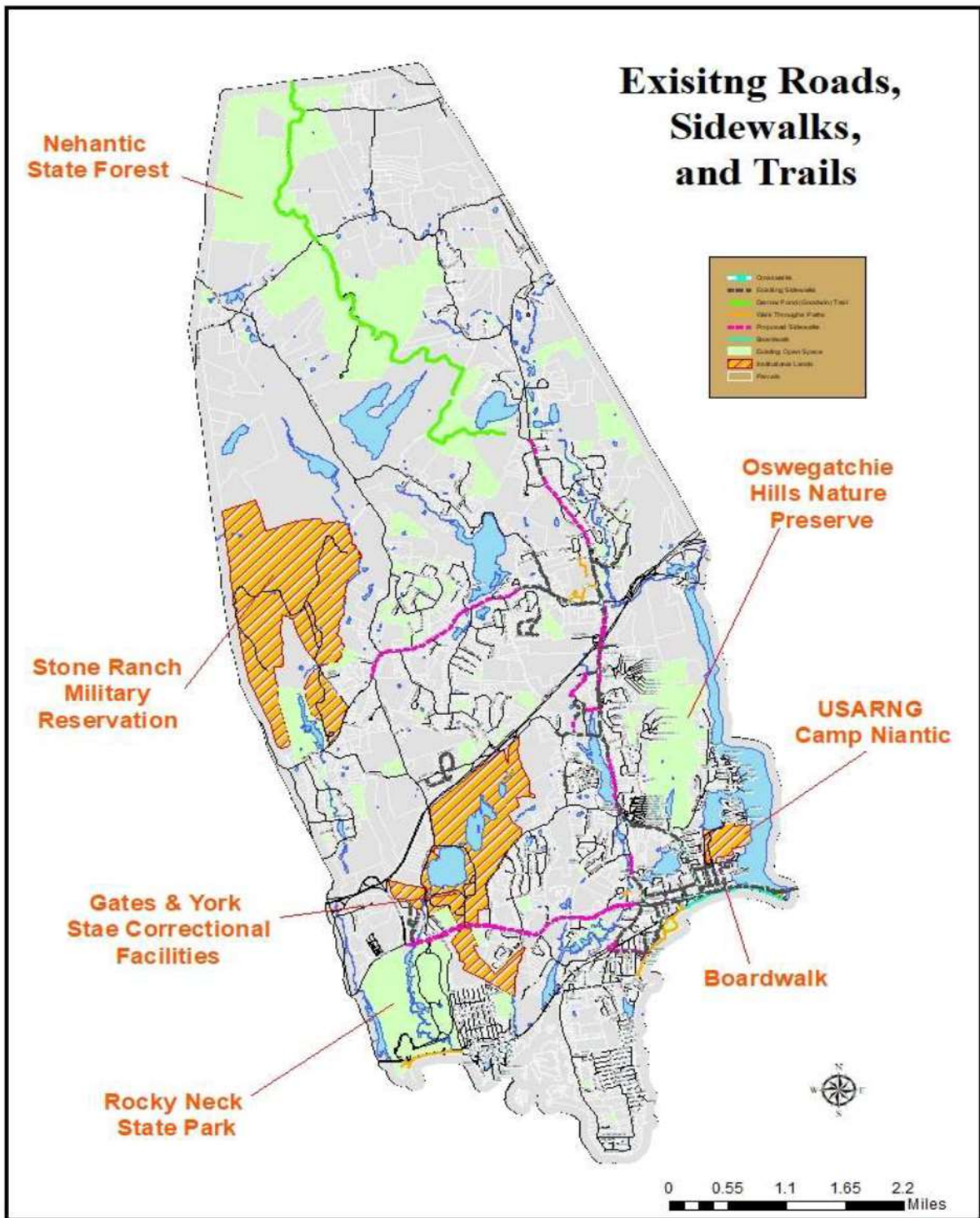


Figure 29 - Sidewalk and Walkability Plan

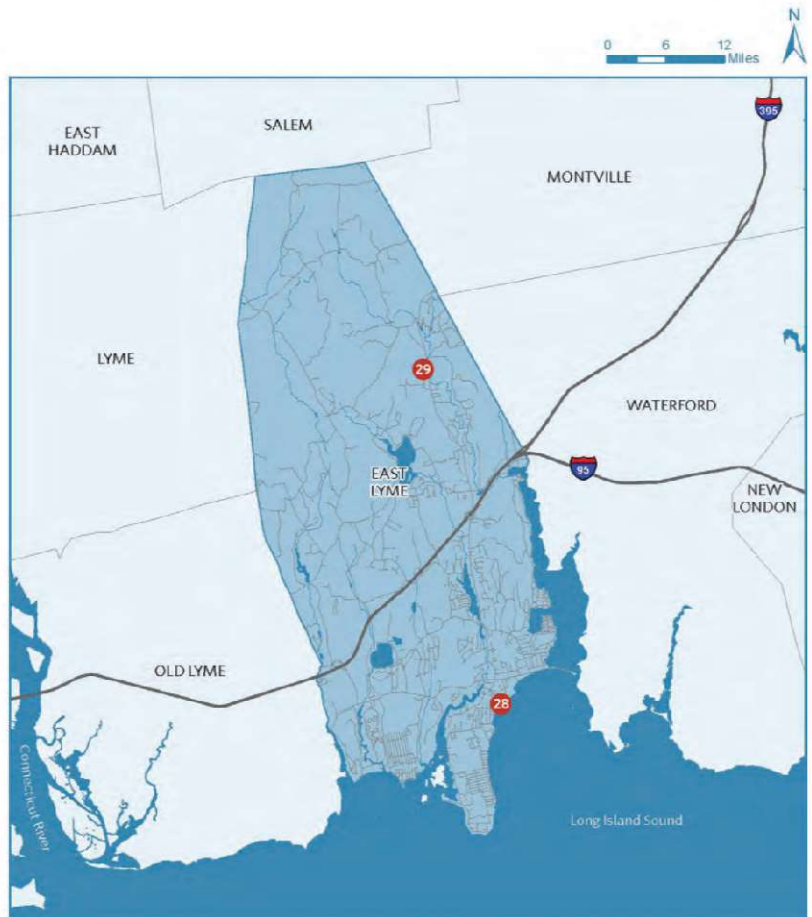


EAST LYME

East Lyme Summary												
PROJECT	TYPE	STRATEGY	ACTION	ADDRESS	PLAN REFERENCE	RISK - PRIMARY	RISK - SECOND	NDDDB	FLOOD ZONE	BASE FLOOD ELV. (')	LMI (%)	HUC12
Atlantic St Residential Elevations - 28	SI	B	M	Atlantic St	2017 Hazard Mitigation Plan	Buildings	Public Access	Y	AE	11	0.387	Coastal drainages-Niantic River to Griswold Point
Darrow Pond Dam Removal - 29	HI	R	U	Mostoway Rd	2017 Hazard Mitigation Plan	Roads	Private Property	N	0.2 PCT ANNUAL CHANCE FLOOD HAZARD	-9999	0.1627	Niantic River

East Lyme

- 29 Darrow Pond Dam Removal
- 28 Atlantic Street Residential Elevations



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